Fig. 1

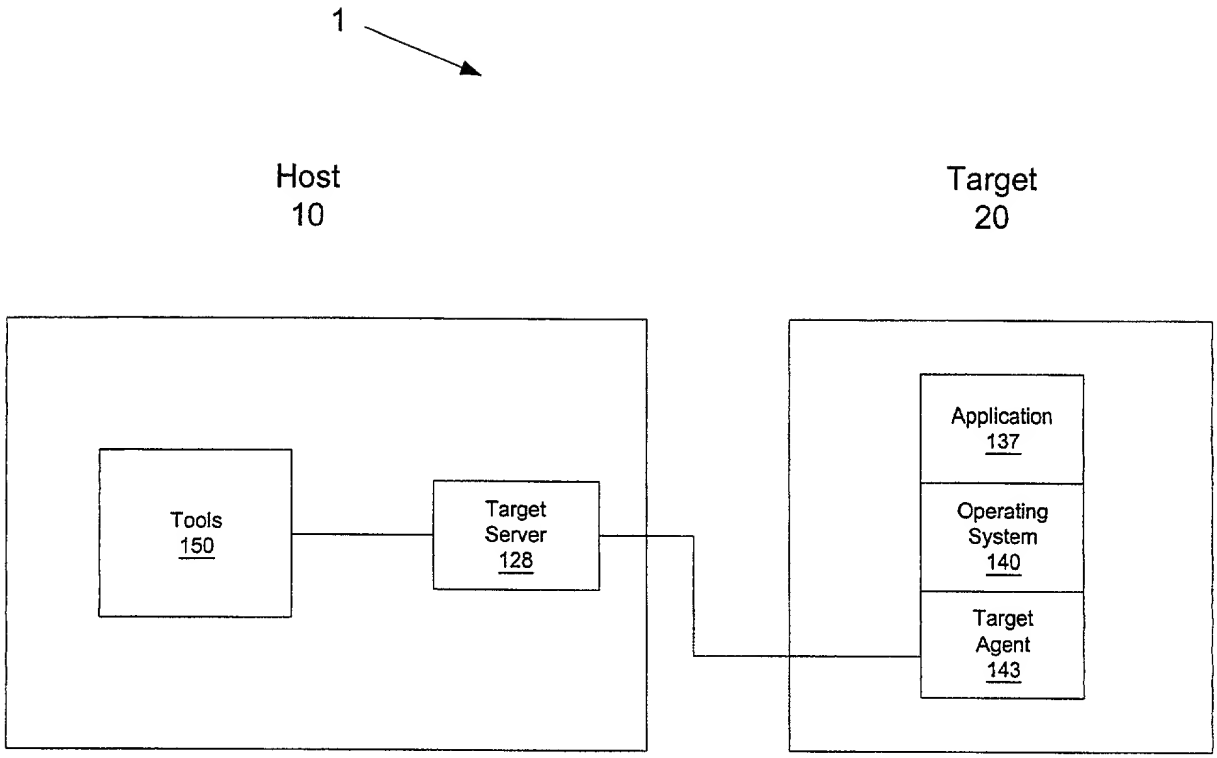

1
Host
10
Target
20
Tools
150
Target
Server
128
Application
137
Operating
System
140
Target
Agent
143

Fig. 2

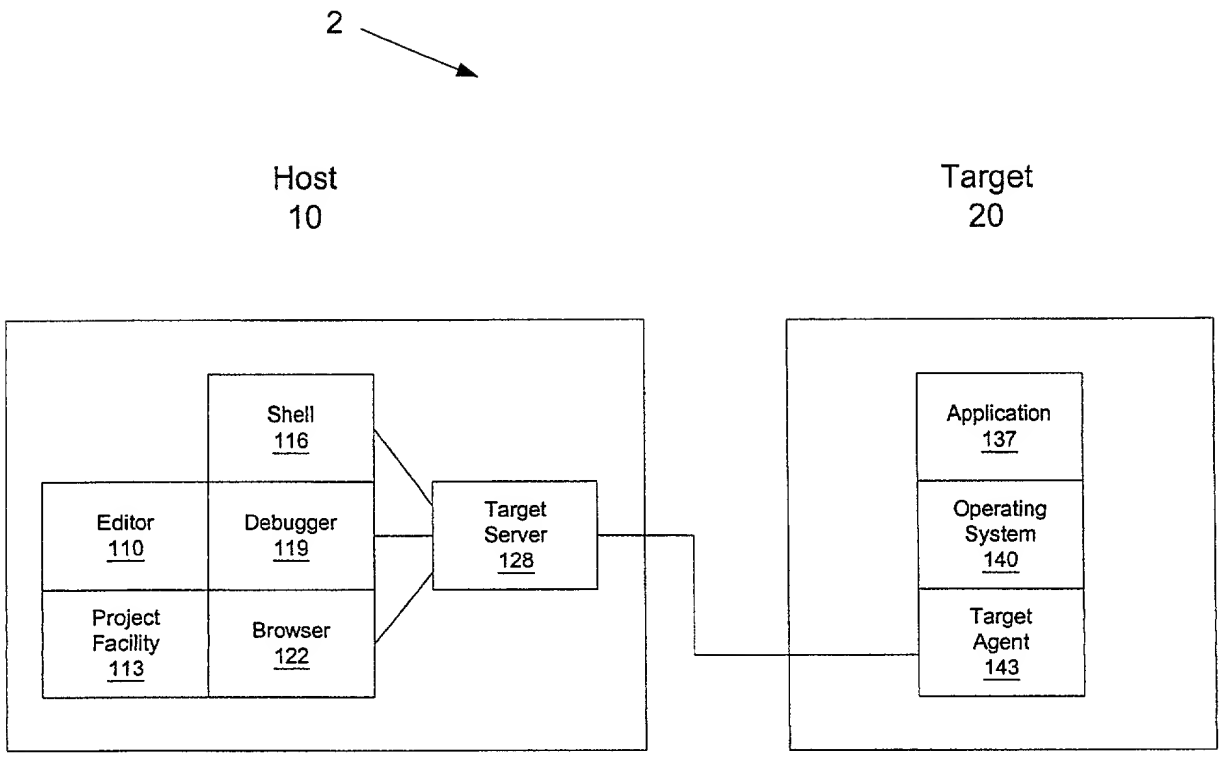

2
Host
10
Target
20
Shell
116
Editor
110
Debugger
119
Project
Facility
113
Browser
122
Target
Server
128
Application
137
Operating
System
140
Target
Agent
143

Fig. 3

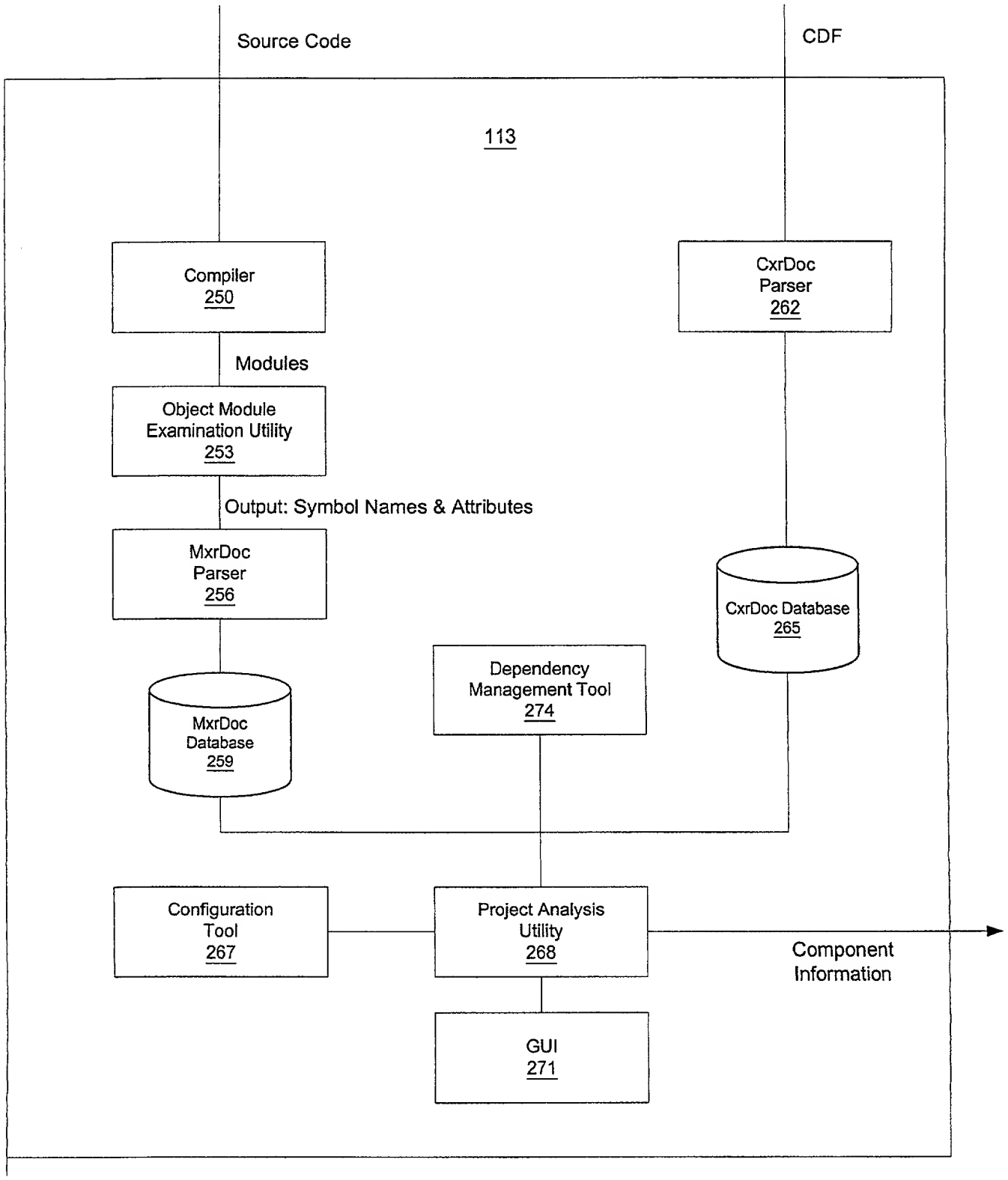

Source Code
CDF
113
Compiler
250
CxrDoc
Parser
262
Modules
Object Module
Examination Utility
253
Output: Symbol Names & Attributes
MxrDoc
Parser
256
CxrDoc Database
265
Dependency
Management Tool
274
MxrDoc
Database
259
Configuration
Tool
267
Project Analysis
Utility
268
Component
Information
GUI
271

Fig. 4

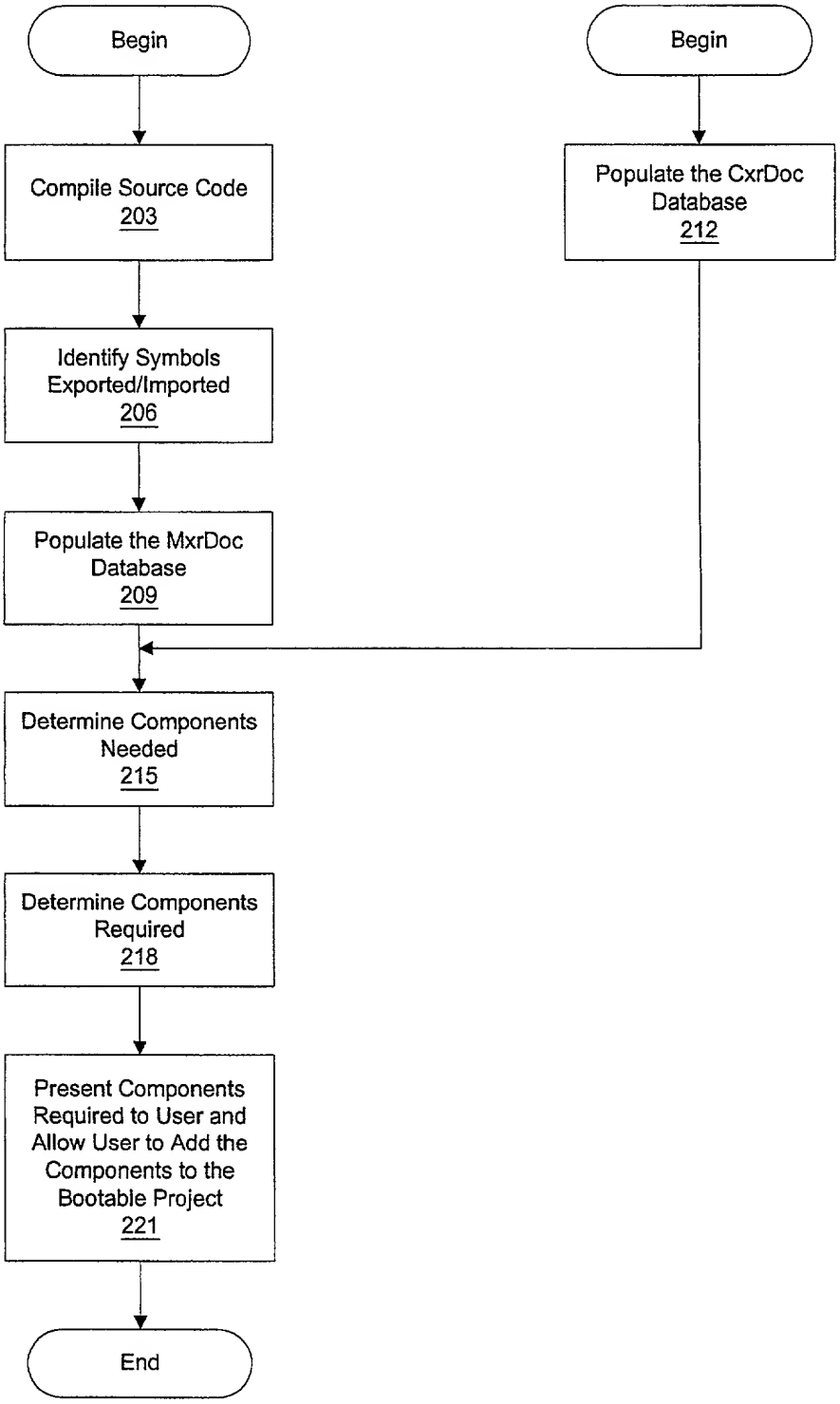

Begin
Compile Source Code
203
Identify Symbols
Exported/Imported
206
Populate the MxrDoc
Database
209
Begin
Populate the CxrDoc
Database
212
Determine Components
Needed
215
Determine Components
Required
218
Present Components
Required to User and
Allow User to Add the
Components to the
Bootable Project
221
End

Fig. 5

Module Cross-Reference Database (mxrDoc)

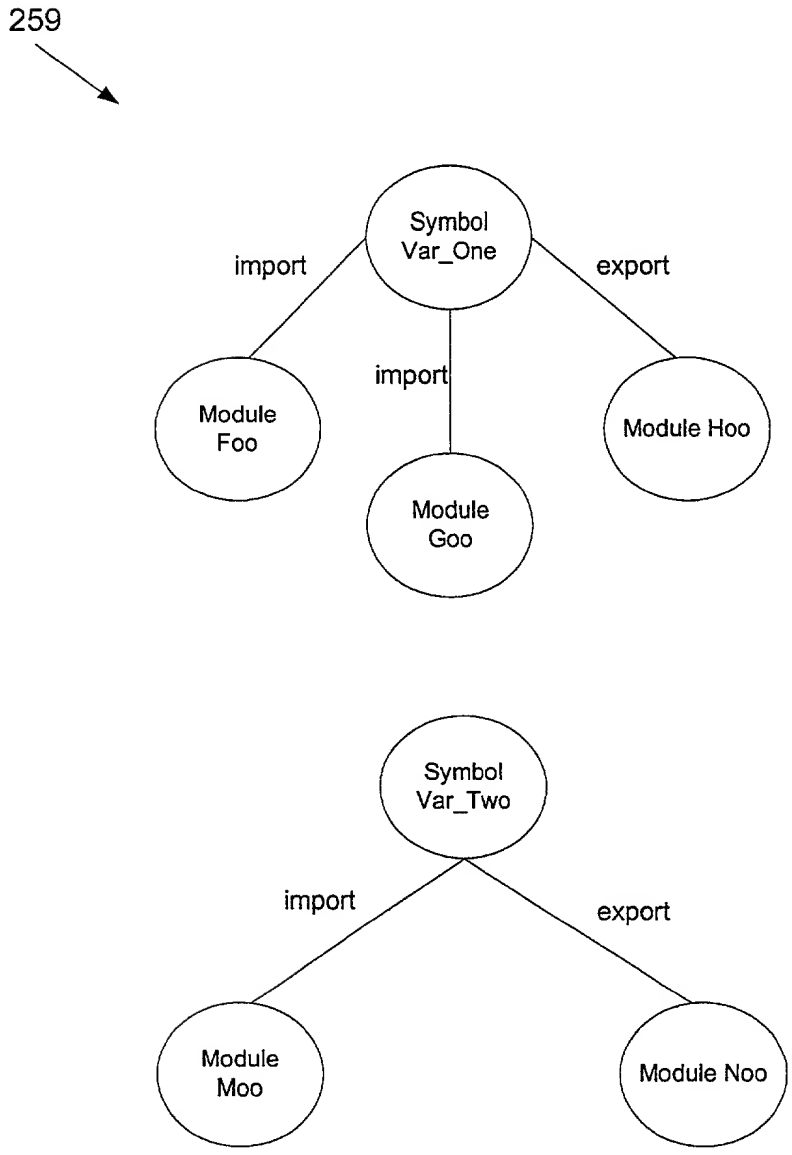


Fig. 6

Component Cross-Reference Database (cxrDoc)

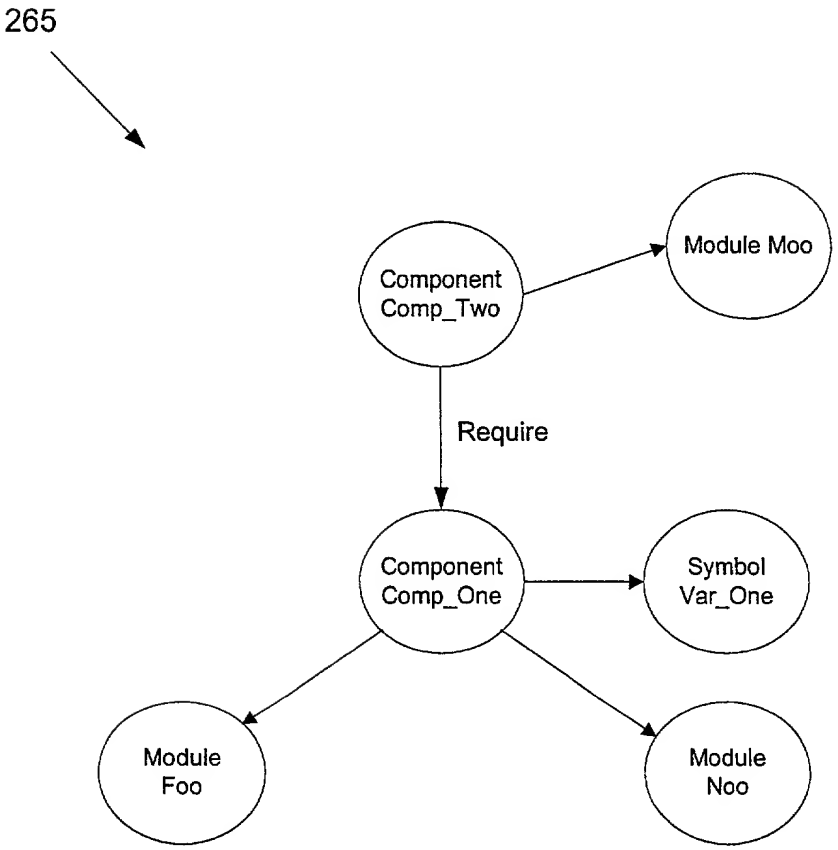


Fig. 7

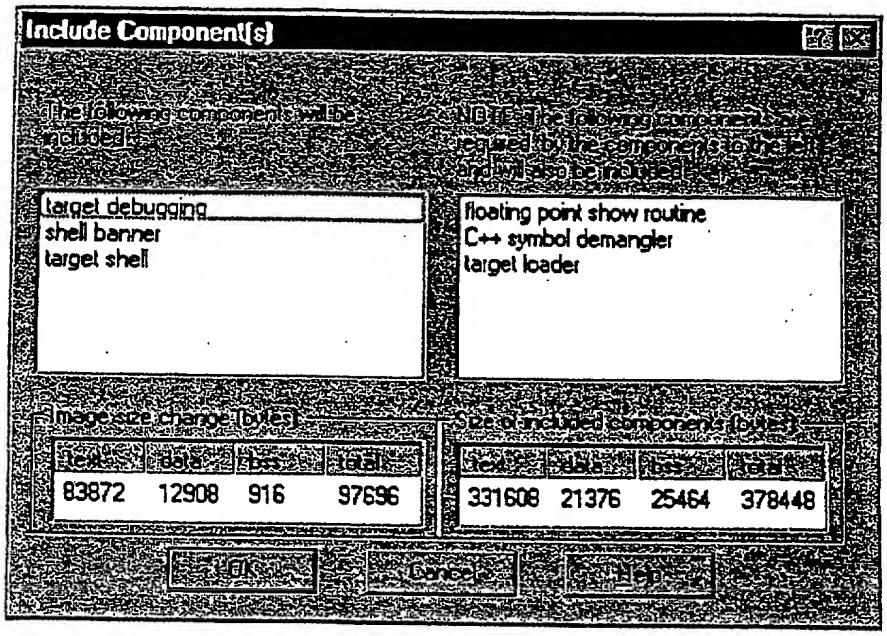

Include Component[s]
target debugging
shell banner
target shell
floating point show routine
C++ symbol demangler
target loader
Image size change (bytes)
text data bss total
83872 12908 916 97696
Size of included components (bytes)
331608 21376 25464 378448
OK
Cancel
Help

Fig. 8

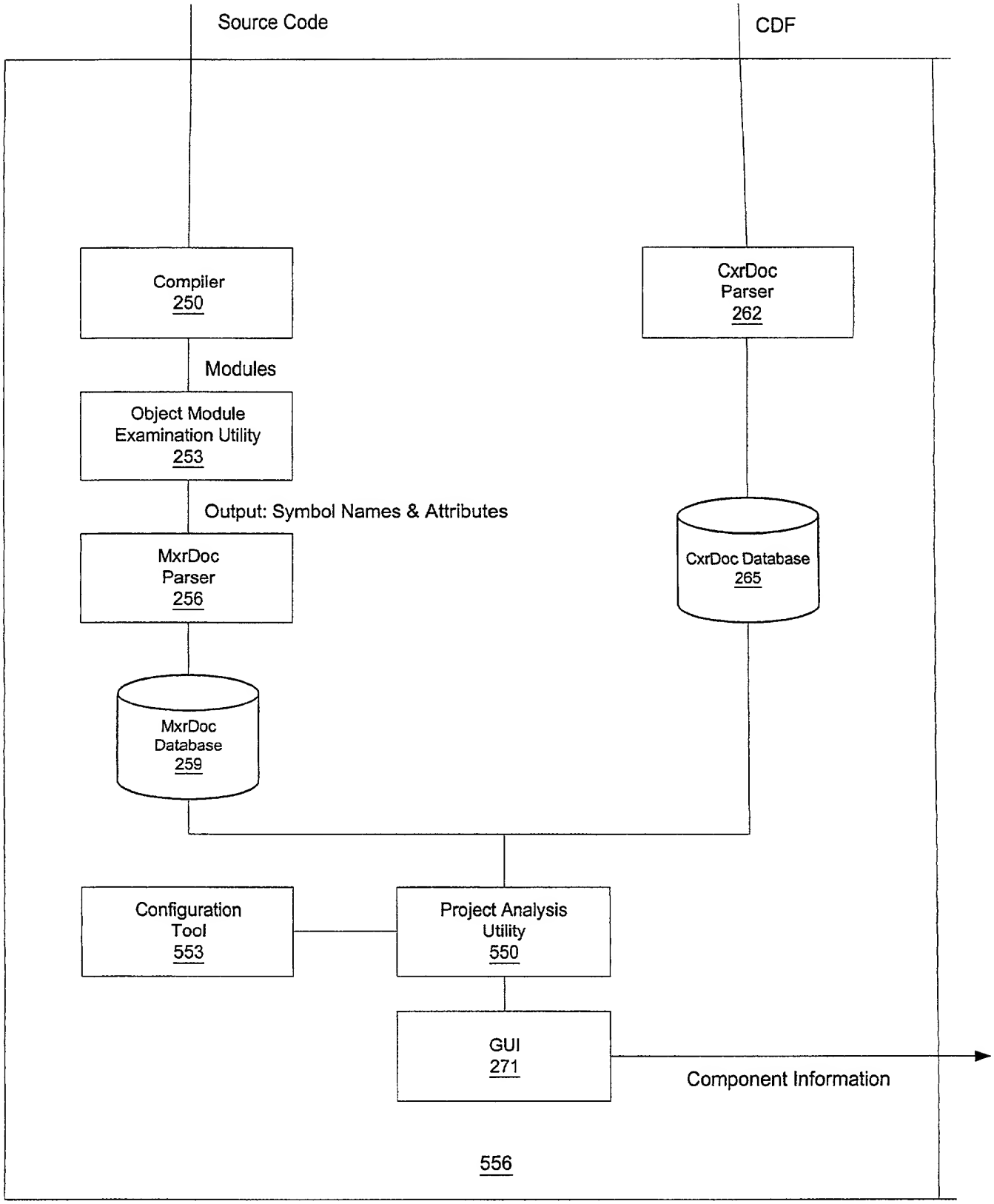

Source Code
CDF
Compiler
250
CxrDoc
Parser
262
Modules
Object Module
Examination Utility
253
Output: Symbol Names & Attributes
MxrDoc
Parser
256
CxrDoc Database
265
MxrDoc
Database
259
Configuration
Tool
553
Project Analysis
Utility
550
GUI
271
Component Information
556

Fig. 9

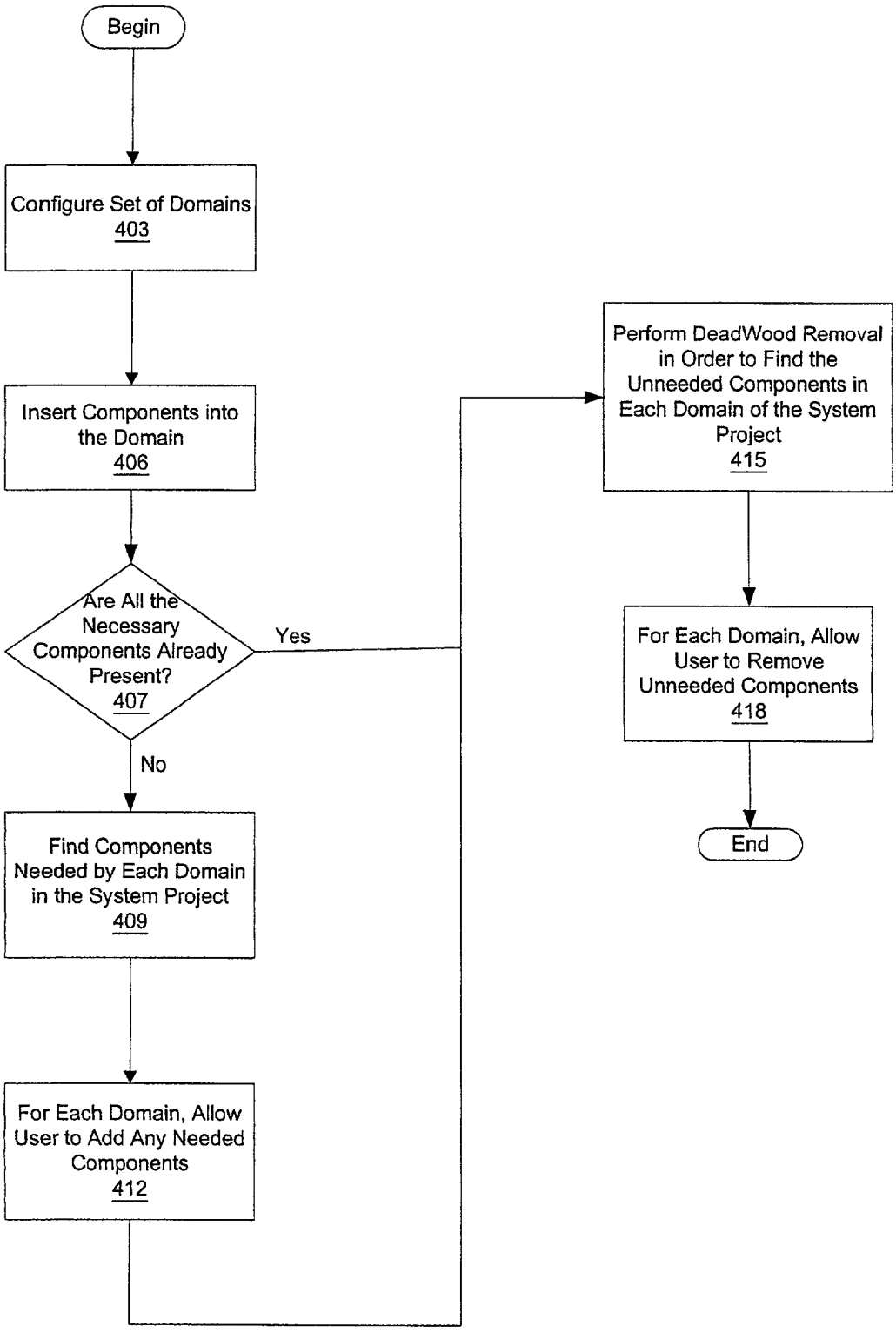

Begin
Configure Set of Domains
403
Insert Components into the Domain
406
Are All the Necessary Components Already Present?
407
Yes
No
Find Components Needed by Each Domain in the System Project
409
For Each Domain, Allow User to Add Any Needed Components
412
Perform DeadWood Removal in Order to Find the Unneeded Components in Each Domain of the System Project
415
For Each Domain, Allow User to Remove Unneeded Components
418
End

Fig. 10

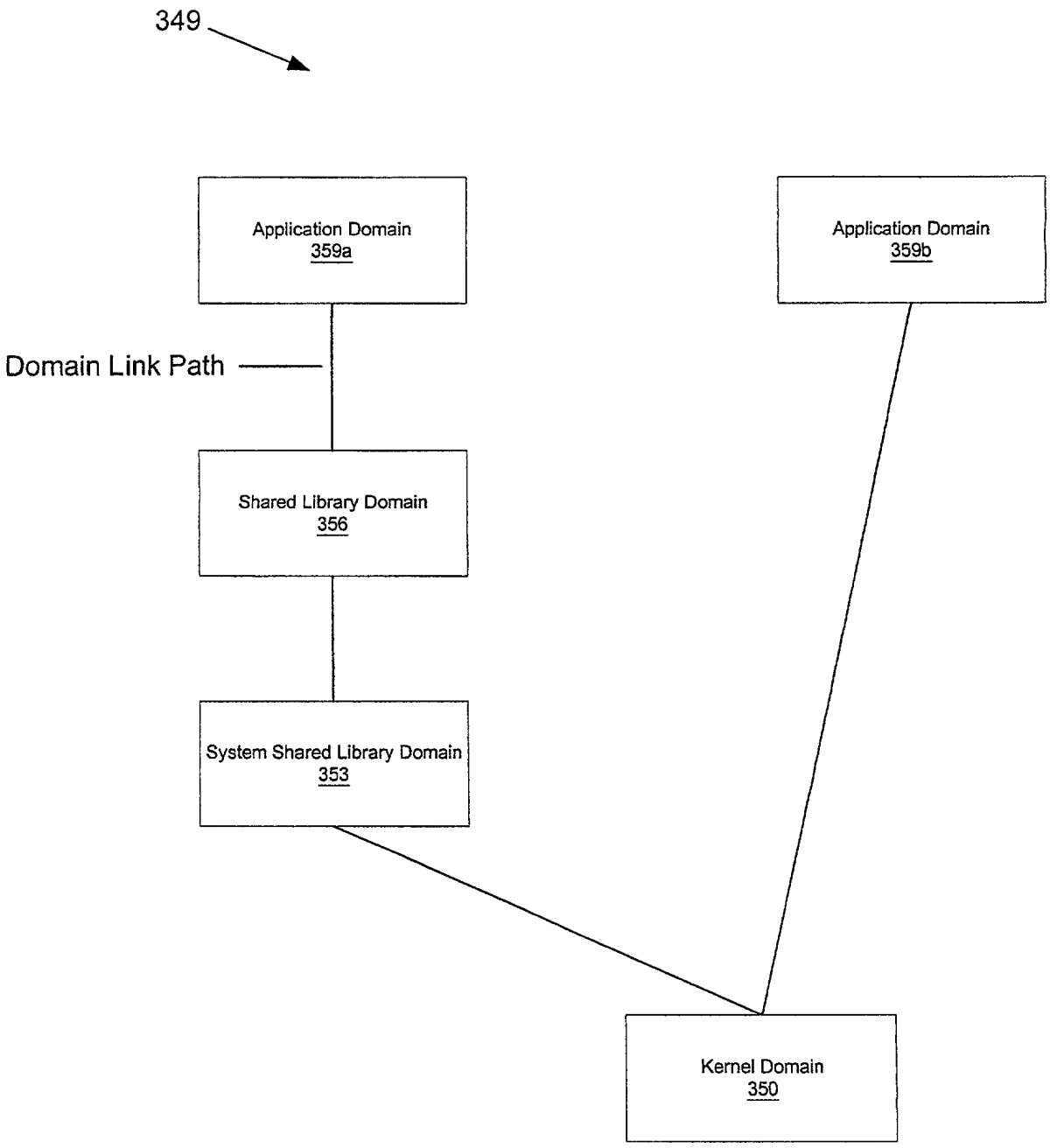

349
Application Domain
359a
Application Domain
359b
Domain Link Path
Shared Library Domain
356
System Shared Library Domain
353
Kernel Domain
350

Fig. 11

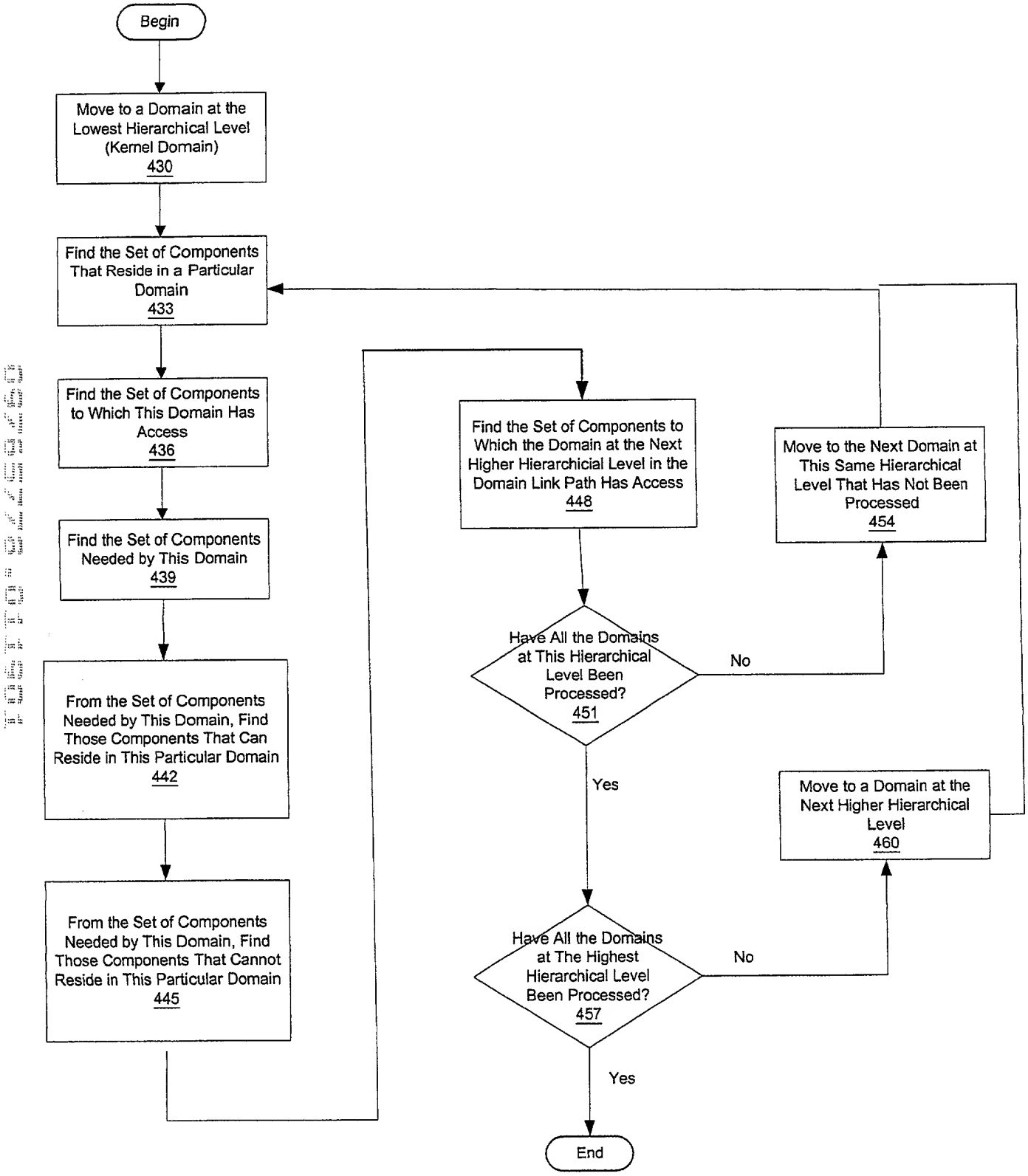

Begin
Move to a Domain at the Lowest Hierarchical Level (Kernel Domain) 430
Find the Set of Components That Reside in a Particular Domain 433
Find the Set of Components to Which This Domain Has Access 436
Find the Set of Components Needed by This Domain 439
From the Set of Components Needed by This Domain, Find Those Components That Can Reside in This Particular Domain 442
From the Set of Components Needed by This Domain, Find Those Components That Cannot Reside in This Particular Domain 445
Find the Set of Components to Which the Domain at the Next Higher Hierarchicial Level in the Domain Link Path Has Access 448
Have All the Domains at This Hierarchical Level Been Processed? 451
No
Yes
Move to the Next Domain at This Same Hierarchical Level That Has Not Been Processed 454
Move to a Domain at the Next Higher Hierarchical Level 460
Have All the Domains at The Highest Hierarchical Level Been Processed? 457
No
Yes
End

Fig. 12

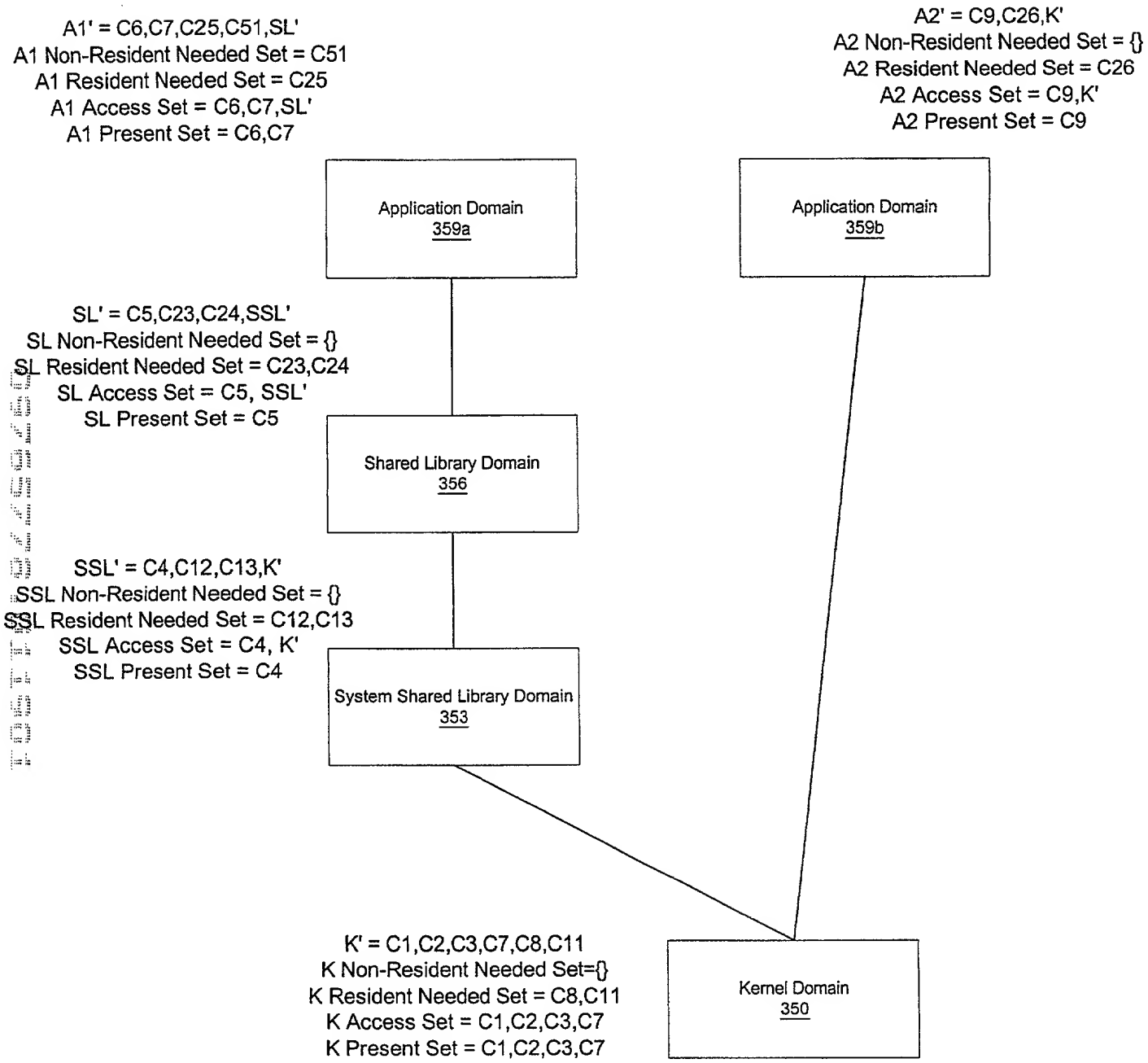

A1' = C6,C7,C25,C51,SL'
A1 Non-Resident Needed Set = C51
A1 Resident Needed Set = C25
A1 Access Set = C6,C7,SL'
A1 Present Set = C6,C7
A2' = C9,C26,K'
A2 Non-Resident Needed Set = {}
A2 Resident Needed Set = C26
A2 Access Set = C9,K'
A2 Present Set = C9
Application Domain
359a
Application Domain
359b
SL' = C5,C23,C24,SSL'
SL Non-Resident Needed Set = {}
SL Resident Needed Set = C23,C24
SL Access Set = C5, SSL'
SL Present Set = C5
Shared Library Domain
356
SSL' = C4,C12,C13,K'
SSL Non-Resident Needed Set = {}
SSL Resident Needed Set = C12,C13
SSL Access Set = C4, K'
SSL Present Set = C4
System Shared Library Domain
353
K' = C1,C2,C3,C7,C8,C11
K Non-Resident Needed Set={}
K Resident Needed Set = C8,C11
K Access Set = C1,C2,C3,C7
K Present Set = C1,C2,C3,C7
Kernel Domain
350

Fig. 13a

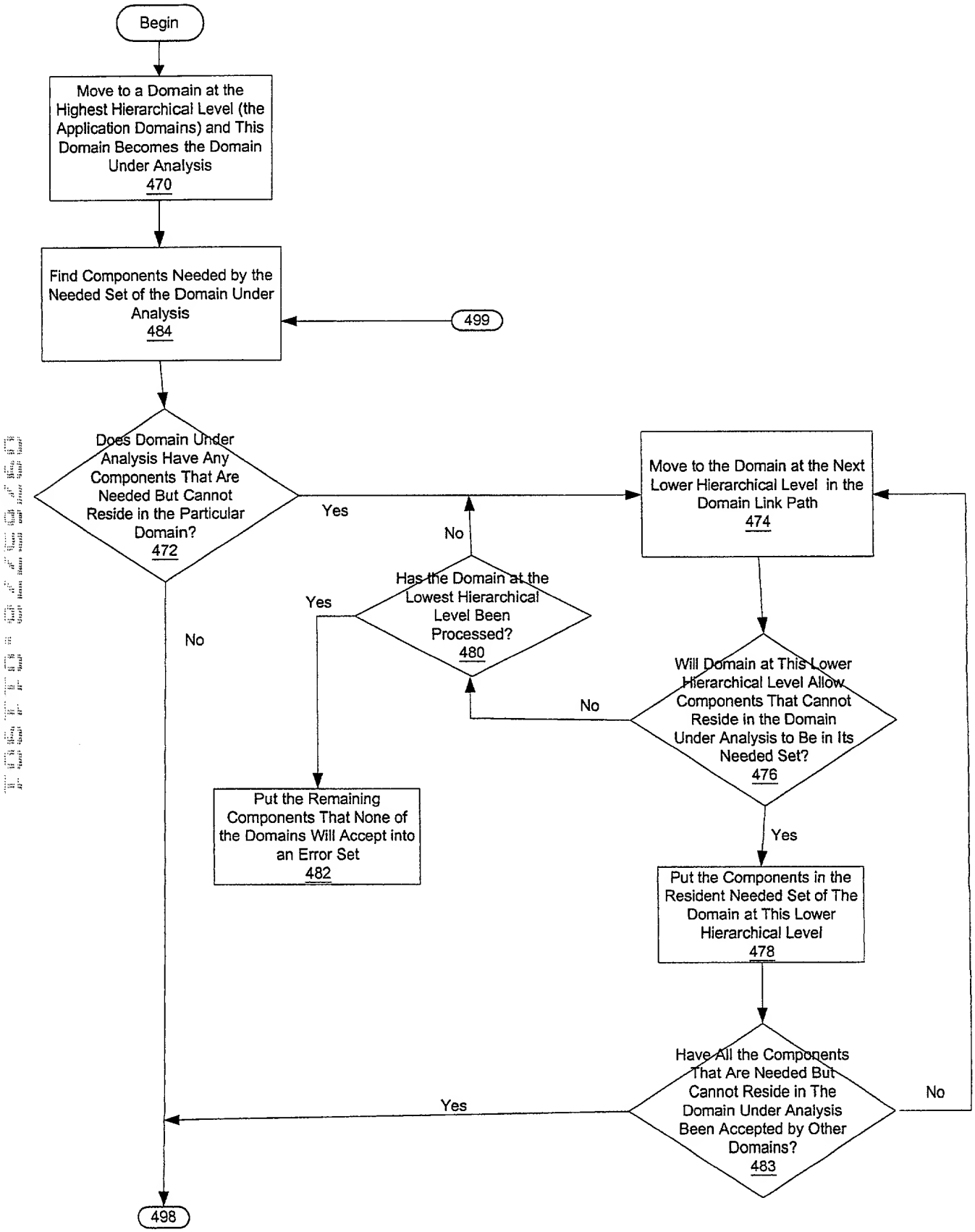

Begin
Move to a Domain at the Highest Hierarchical Level (the Application Domains) and This Domain Becomes the Domain Under Analysis
470
Find Components Needed by the Needed Set of the Domain Under Analysis
484
499
Does Domain Under Analysis Have Any Components That Are Needed But Cannot Reside in the Particular Domain?
472
Yes
No
Move to the Domain at the Next Lower Hierarchical Level in the Domain Link Path
474
Has the Domain at the Lowest Hierarchical Level Been Processed?
480
Yes
No
Will Domain at This Lower Hierarchical Level Allow Components That Cannot Reside in the Domain Under Analysis to Be in Its Needed Set?
476
No
Yes
Put the Remaining Components That None of the Domains Will Accept into an Error Set
482
Put the Components in the Resident Needed Set of The Domain at This Lower Hierarchical Level
478
Have All the Components That Are Needed But Cannot Reside in The Domain Under Analysis Been Accepted by Other Domains?
483
Yes
No
498

Fig. 13b

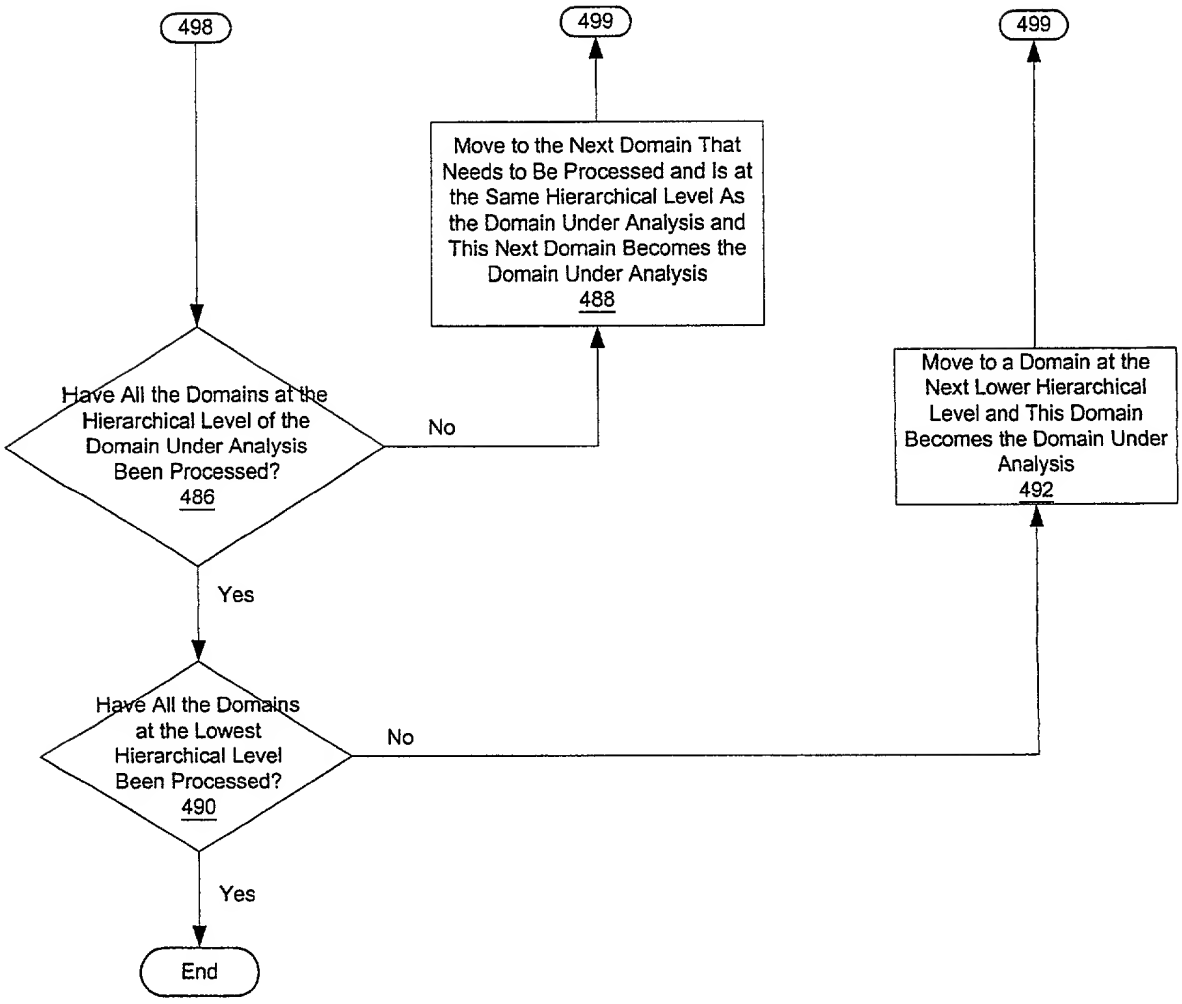

498
499
499
Move to the Next Domain That Needs to Be Processed and Is at the Same Hierarchical Level As the Domain Under Analysis and This Next Domain Becomes the Domain Under Analysis
488
Move to a Domain at the Next Lower Hierarchical Level and This Domain Becomes the Domain Under Analysis
492
Have All the Domains at the Hierarchical Level of the Domain Under Analysis Been Processed?
486
No
Yes
Have All the Domains at the Lowest Hierarchical Level Been Processed?
490
No
Yes
End

Fig. 14

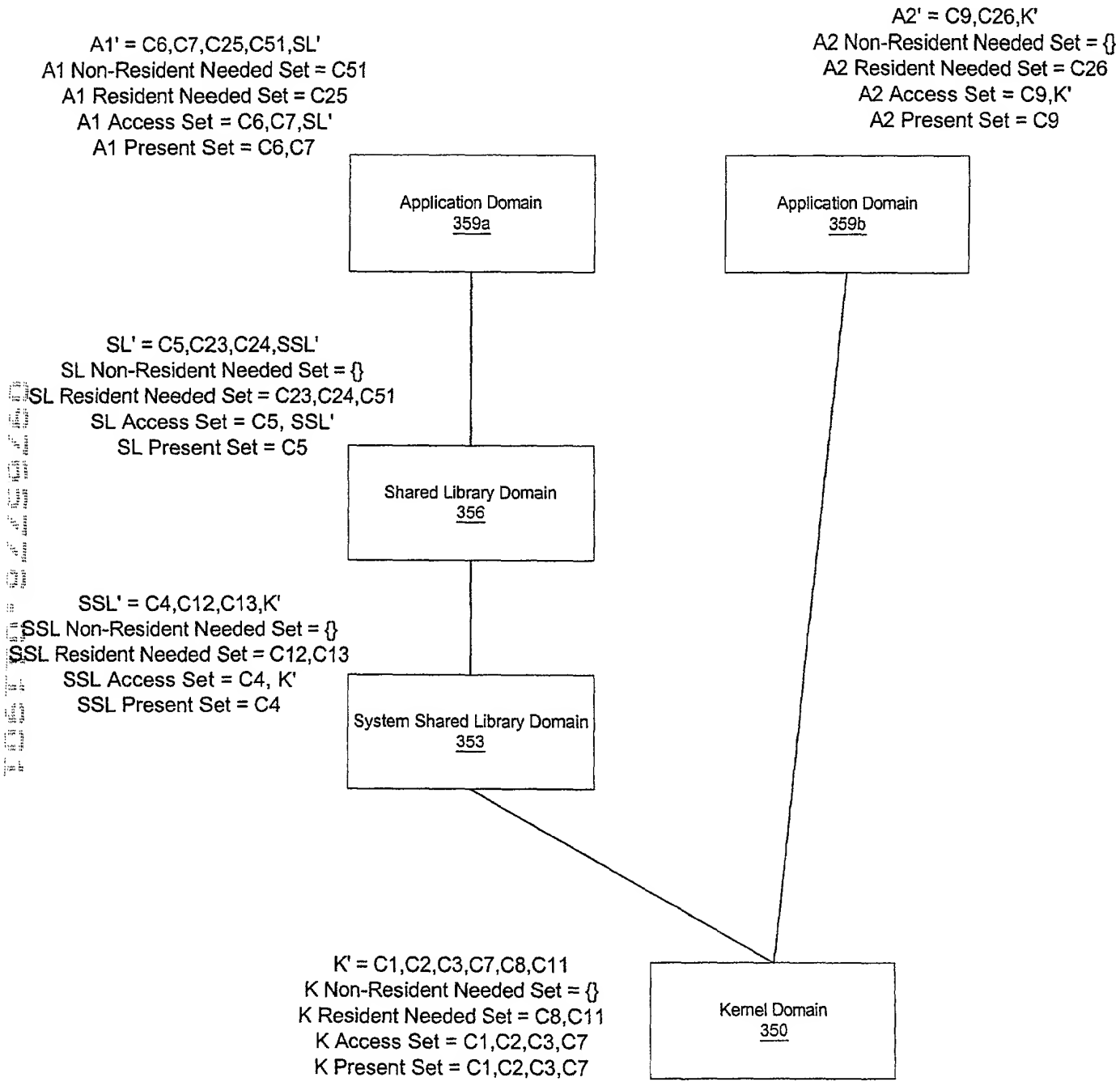

A1' = C6,C7,C25,C51,SL'
A1 Non-Resident Needed Set = C51
A1 Resident Needed Set = C25
A1 Access Set = C6,C7,SL'
A1 Present Set = C6,C7
A2' = C9,C26,K'
A2 Non-Resident Needed Set = {}
A2 Resident Needed Set = C26
A2 Access Set = C9,K'
A2 Present Set = C9
Application Domain
359a
Application Domain
359b
SL' = C5,C23,C24,SSL'
SL Non-Resident Needed Set = {}
SL Resident Needed Set = C23,C24,C51
SL Access Set = C5, SSL'
SL Present Set = C5
Shared Library Domain
356
SSL' = C4,C12,C13,K'
SSL Non-Resident Needed Set = {}
SSL Resident Needed Set = C12,C13
SSL Access Set = C4, K'
SSL Present Set = C4
System Shared Library Domain
353
K' = C1,C2,C3,C7,C8,C11
K Non-Resident Needed Set = {}
K Resident Needed Set = C8,C11
K Access Set = C1,C2,C3,C7
K Present Set = C1,C2,C3,C7
Kernel Domain
350

Fig. 15

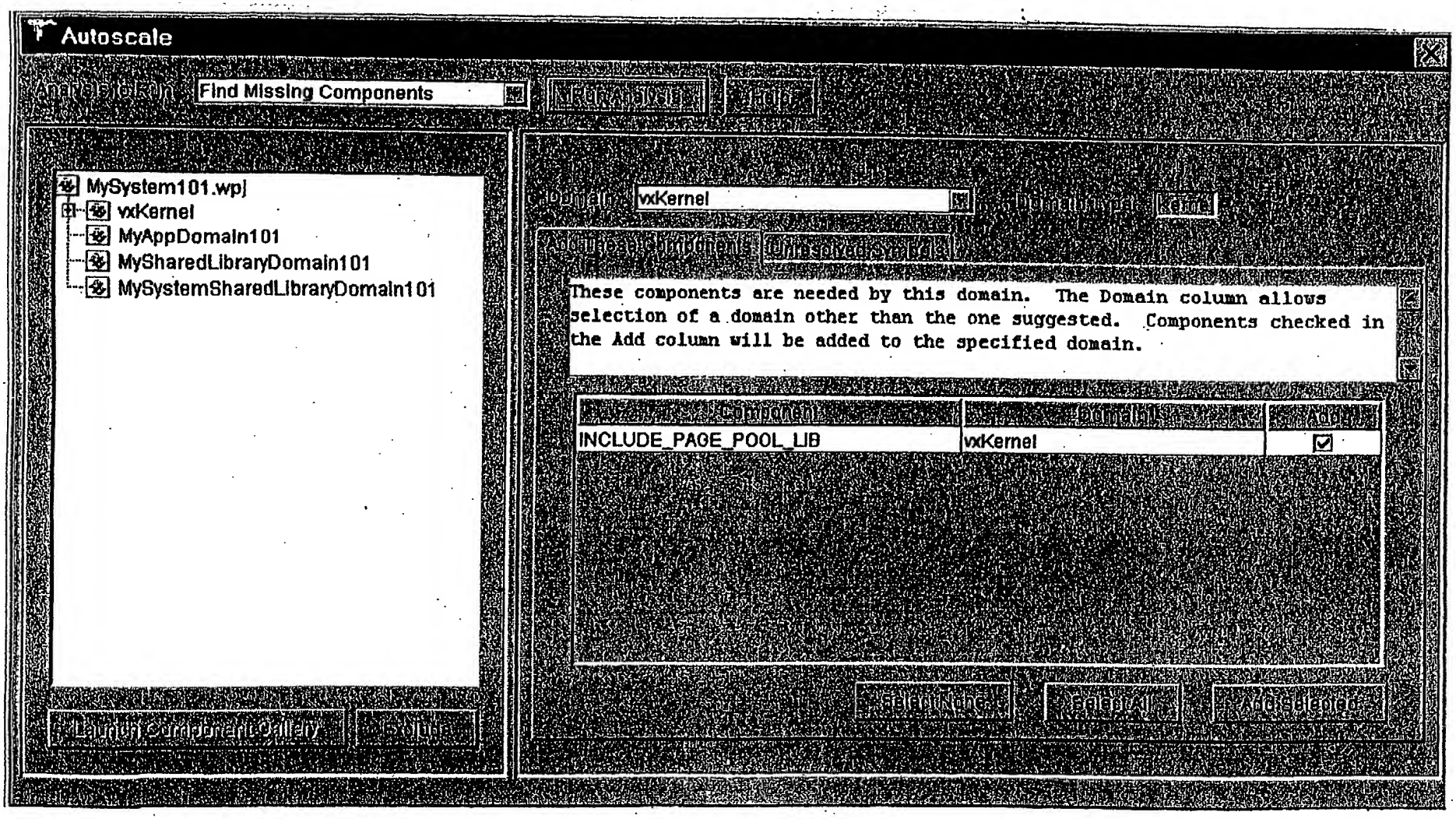

Autoscale
Find Missing Components
MySystem101.wpj
vxKernel
MyAppDomain101
MySharedLibraryDomain101
MySystemSharedLibraryDomain101
vxKernel
These components are needed by this domain. The Domain column allows selection of a domain other than the one suggested. Components checked in the Add column will be added to the specified domain.
Component
Domain
Add
INCLUDE_PAGE_POOL_LIB
vxKernel

Fig. 16a

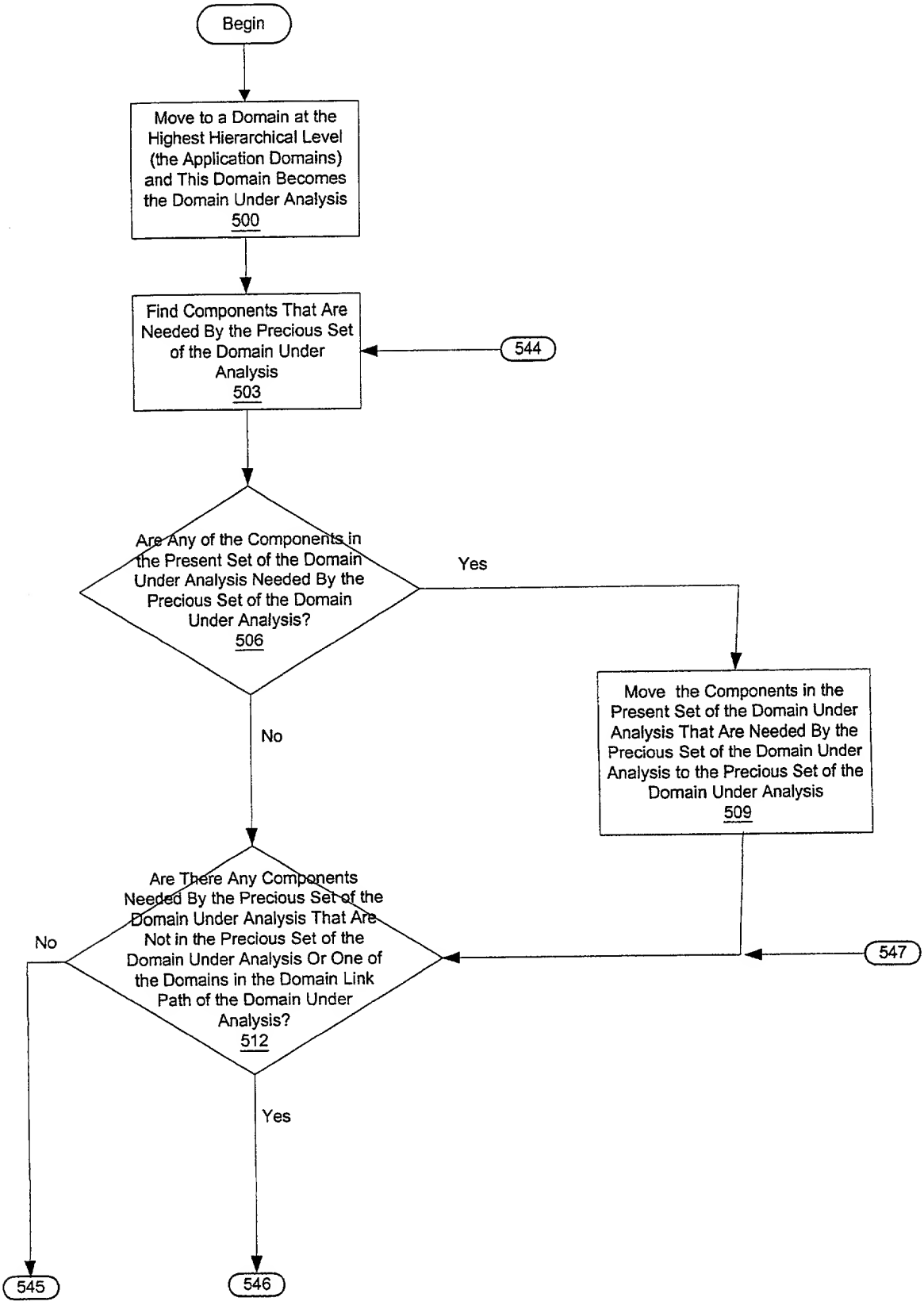

Begin
Move to a Domain at the Highest Hierarchical Level (the Application Domains) and This Domain Becomes the Domain Under Analysis
500
Find Components That Are Needed By the Precious Set of the Domain Under Analysis
503
544
Are Any of the Components in the Present Set of the Domain Under Analysis Needed By the Precious Set of the Domain Under Analysis?
506
Yes
No
Move the Components in the Present Set of the Domain Under Analysis That Are Needed By the Precious Set of the Domain Under Analysis to the Precious Set of the Domain Under Analysis
509
547
Are There Any Components Needed By the Precious Set of the Domain Under Analysis That Are Not in the Precious Set of the Domain Under Analysis Or One of the Domains in the Domain Link Path of the Domain Under Analysis?
512
No
Yes
545
546

Fig. 16b

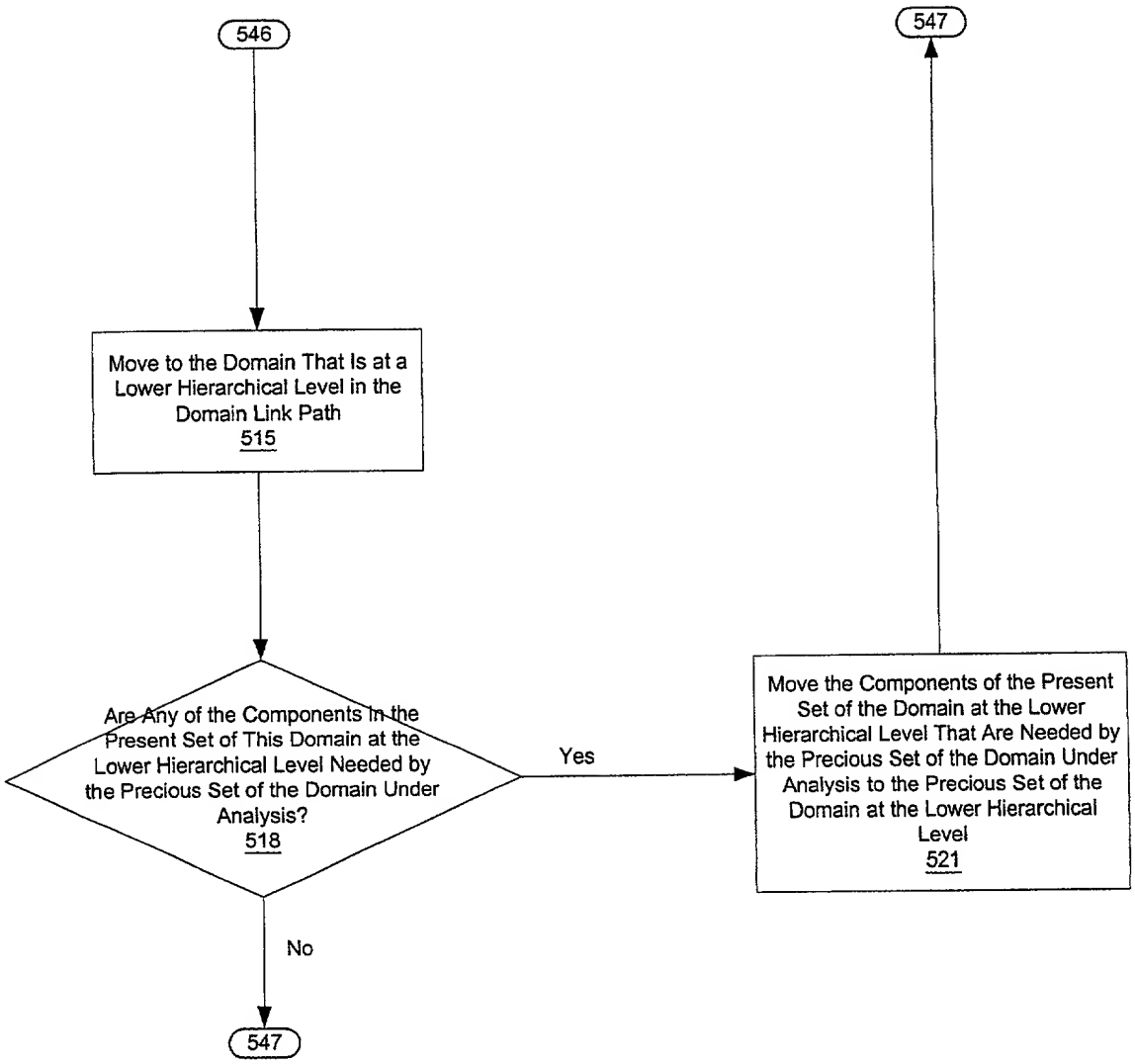

546
Move to the Domain That Is at a Lower Hierarchical Level in the Domain Link Path
515
Are Any of the Components in the Present Set of This Domain at the Lower Hierarchical Level Needed by the Precious Set of the Domain Under Analysis?
518
Yes
No
547
Move the Components of the Present Set of the Domain at the Lower Hierarchical Level That Are Needed by the Precious Set of the Domain Under Analysis to the Precious Set of the Domain at the Lower Hierarchical Level
521
547

Fig. 16c

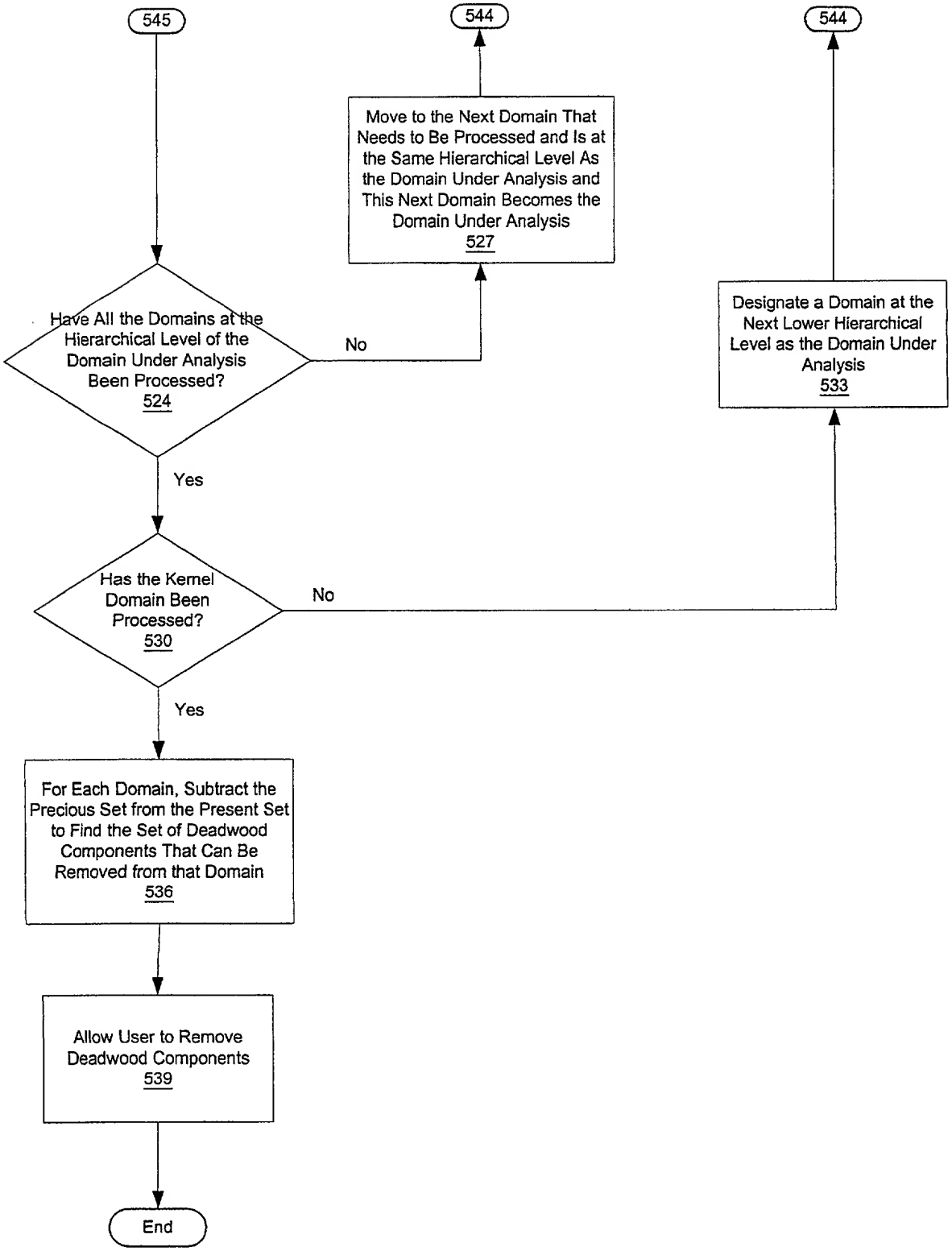

545
544
544
Move to the Next Domain That Needs to Be Processed and Is at the Same Hierarchical Level As the Domain Under Analysis and This Next Domain Becomes the Domain Under Analysis
527
Have All the Domains at the Hierarchical Level of the Domain Under Analysis Been Processed?
524
No
Designate a Domain at the Next Lower Hierarchical Level as the Domain Under Analysis
533
Yes
Has the Kernel Domain Been Processed?
530
No
Yes
For Each Domain, Subtract the Precious Set from the Present Set to Find the Set of Deadwood Components That Can Be Removed from that Domain
536
Allow User to Remove Deadwood Components
539
End

Fig. 17

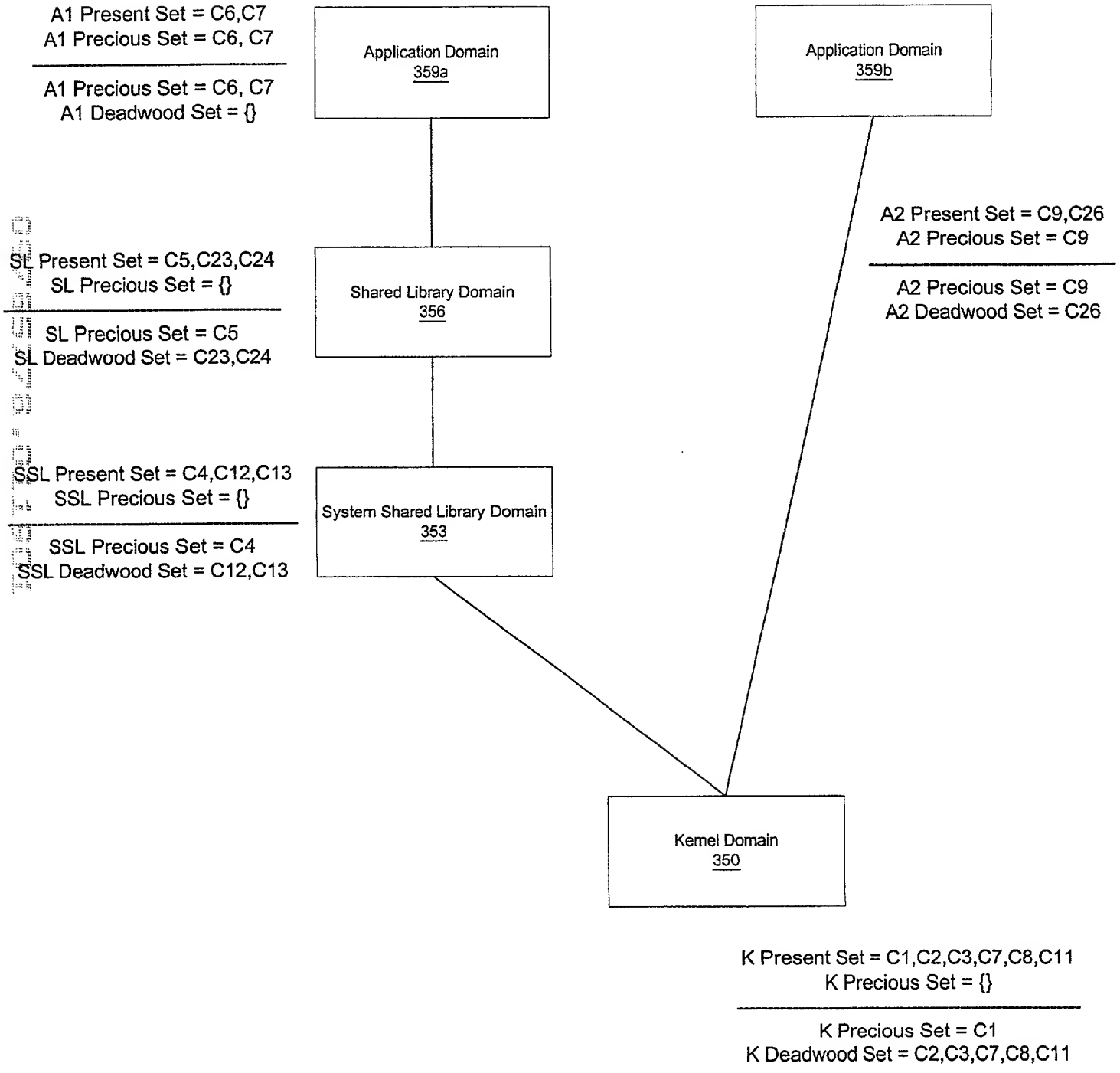
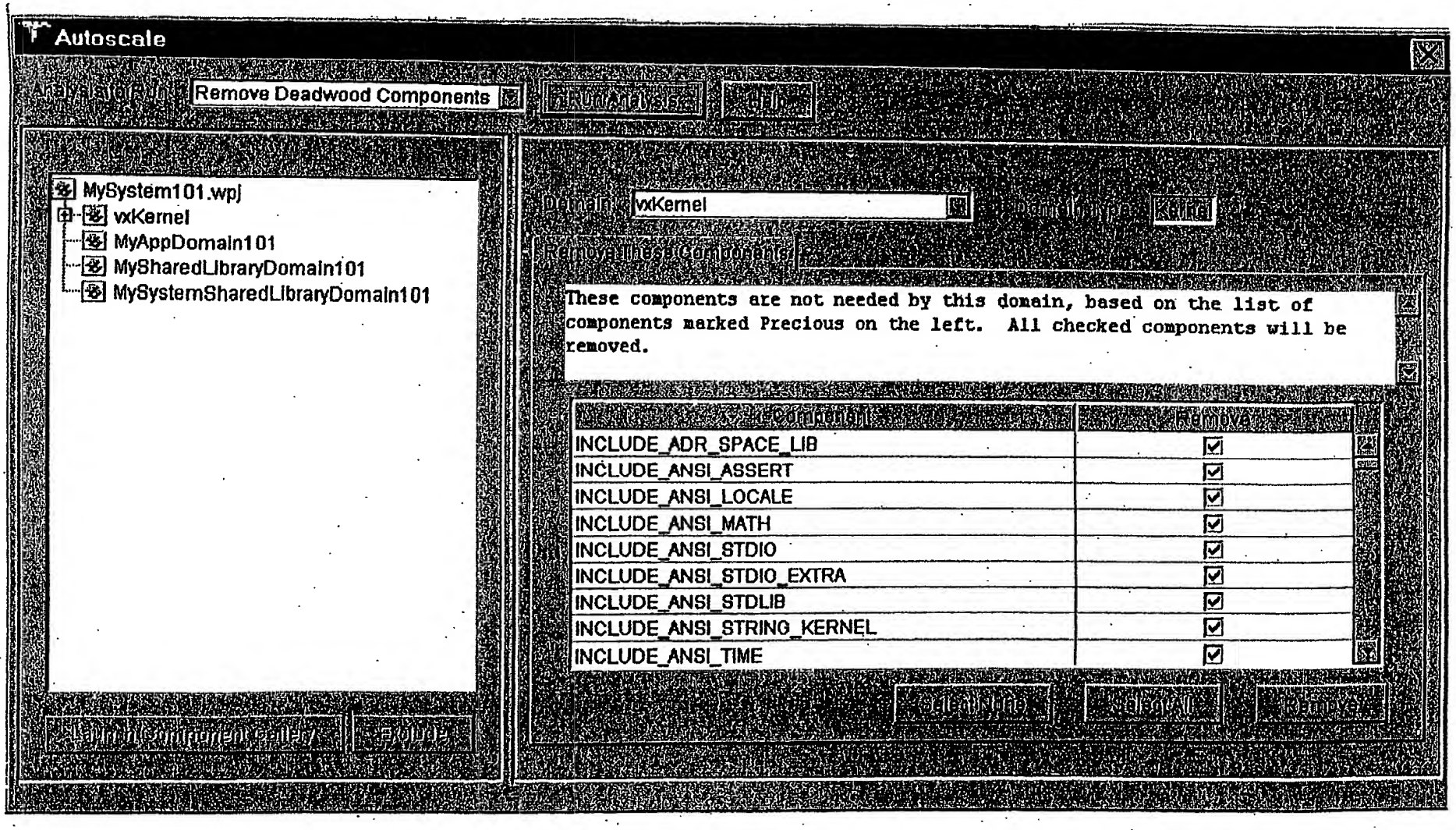

A1 Present Set = C6,C7
A1 Precious Set = C6, C7
A1 Precious Set = C6, C7
A1 Deadwood Set = {}
Application Domain
359a
Application Domain
359b
A2 Present Set = C9,C26
A2 Precious Set = C9
A2 Precious Set = C9
A2 Deadwood Set = C26
SL Present Set = C5,C23,C24
SL Precious Set = {}
SL Precious Set = C5
SL Deadwood Set = C23,C24
Shared Library Domain
356
SSL Present Set = C4,C12,C13
SSL Precious Set = {}
SSL Precious Set = C4
SSL Deadwood Set = C12,C13
System Shared Library Domain
353
Kernel Domain
350
K Present Set = C1,C2,C3,C7,C8,C11
K Precious Set = {}
K Precious Set = C1
K Deadwood Set = C2,C3,C7,C8,C11

Fig. 18


Autoscale
Remove Deadwood Components
Run Analysis
Help
MySystem101.wpj
vxKernel
MyAppDomain101
MySharedLibraryDomain101
MySystemSharedLibraryDomain101
Domain: vxKernel
Kernel
Remove These Components
These components are not needed by this domain, based on the list of components marked Precious on the left. All checked components will be removed.
Component
Remove
INCLUDE_ADR_SPACE_LIB
INCLUDE_ANSI_ASSERT
INCLUDE_ANSI_LOCALE
INCLUDE_ANSI_MATH
INCLUDE_ANSI_STDIO
INCLUDE_ANSI_STDIO_EXTRA
INCLUDE_ANSI_STDLIB
INCLUDE_ANSI_STRING_KERNEL
INCLUDE_ANSI_TIME
Select All
Remove